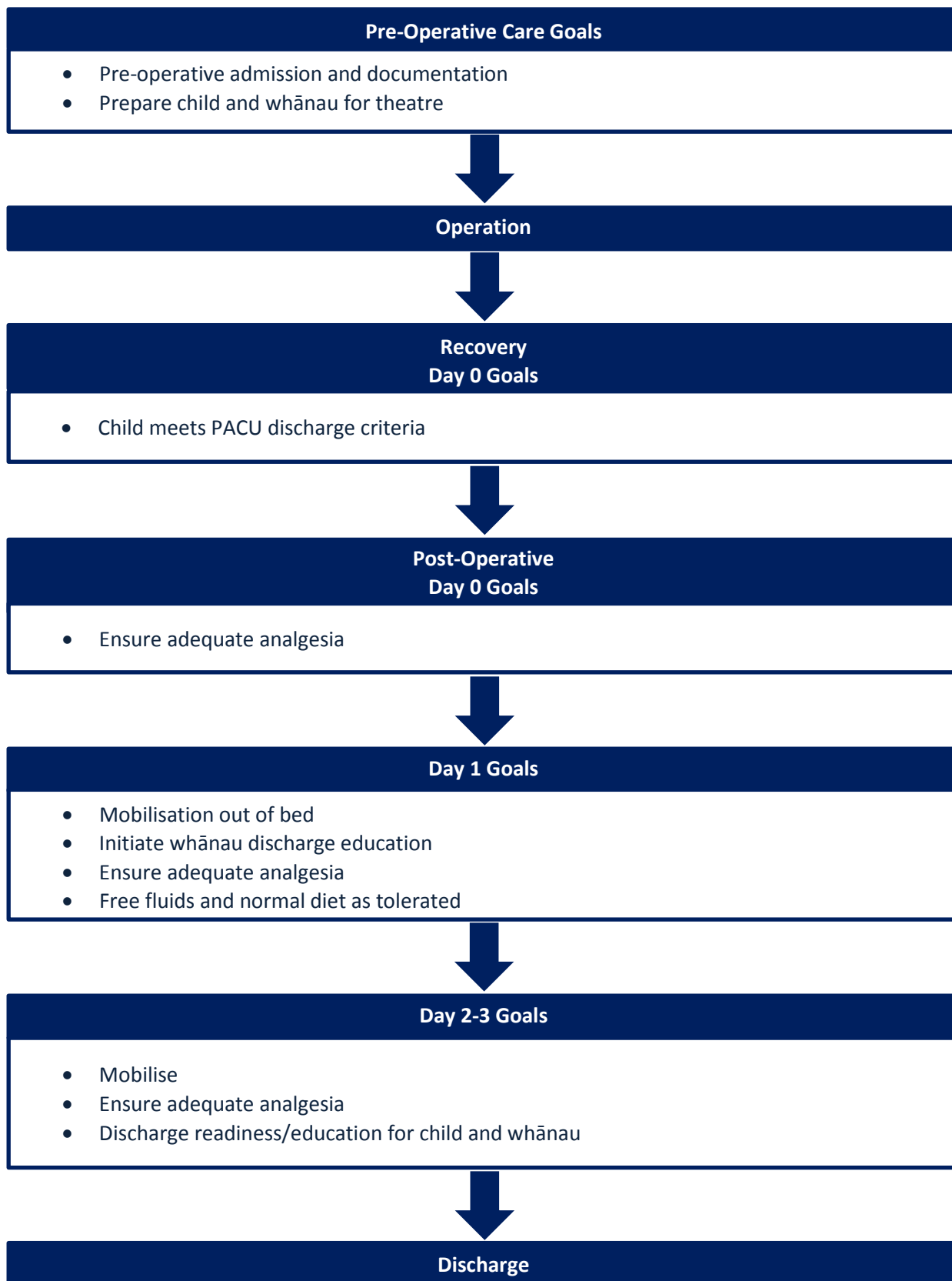


Non-Bypass Clinical Pathway

Expected length of stay 4-5 days



Non-bypass Clinical Pathway Inclusion/Exclusion Criteria

Insert image

Inclusion Criteria	Exclusion Criteria
<ul style="list-style-type: none"> • Non bypass surgery • Pacemaker insertion/changes • Vascular ring surgery • PDA ligation • Thoracic surgery 	<ul style="list-style-type: none"> • Bypass cardiac surgery • Infants in NICU • PA banding • BT shunt/central shunt • Infants less than 28 days • Ex-prem less than 1 year • Ventilated infants

Pathway Instructions	
Pathway	If the child meets the inclusion criteria, please document 'Commenced on Non-Bypass Surgery Clinical Pathway' in clinical notes.
Clinical/care decisions	Document if the decision was made not to follow the recommended action/intervention. Example regular 6 hourly paracetamol not administered because
Clinical management	Follow the recommended clinical management when the child deviates from the clinical pathway.

Pre-Operative Ward Care

Date:

Goals: Prepare pre-operative admission and documentation
Prepare child and whānau for operating theatre

	Pre-Op Ward Care	AM	PM	Clinical/care decisions
Preadmission screening	<ul style="list-style-type: none"> Overseas patients <ul style="list-style-type: none"> MRSA + MSSA screening (nasal and groin swab) MRO screening (rectal/faeces swab) Patients transferred from other hospitals <ul style="list-style-type: none"> MRSA + MSSA screening 			
Medication management	<ul style="list-style-type: none"> Withhold ACE inhibitors and diuretics once NBM Antiarrhythmic and beta blocker should be given unless specified by anaesthetist Aspirin discontinued 2-5 days prior to surgery Pre-medication charted 			
Pre-operative preparation	<ul style="list-style-type: none"> Pre-op ECG is not required for vascular ring and thoracic surgery Confirm cross match and 1 adult unit of RBC is available for non-bypass surgery Shower and chlorhexidine wipe the night prior to surgery and morning of surgery Organise interpreter for consent if required Contact the pacemaker physiologist for pre-operative education if the child is undergoing pacemaker surgery Ages and stages assessment if child is < 5 years If consent not completed by 5pm Clinical Charge Nurse to follow up 			
Nutrition	<ul style="list-style-type: none"> Establish NBM times (see anaesthesia fasting guideline and cardiac surgery admission process guideline) 			
Clinical management	<ul style="list-style-type: none"> Contact surgical Fellow/Registrar to review patient if the patient has any of the following: <ul style="list-style-type: none"> Temp > 37.5 Signs of chest infection Infected skin lesions Vomiting /diarrhoea for the last 24 hours Infectious contact. i.e. chicken pox, measles 			Recommence pathway once theatre date confirmed Yes / No

Recovery

Date:

Goals: Ensure adequate analgesia before transfer to the ward
Child meets PACU discharge criteria

	Recovery	AM	PM	Clinical/care decision
Recovery management	<ul style="list-style-type: none"> Care as per post anaesthesia care unit care and discharge planner 			Extubated in theatre Yes/No
Pain management for children in recovery	<ul style="list-style-type: none"> Analgesia as per anaesthetist +/- NCA/PCA 			Record what type of pain modality was chosen <ul style="list-style-type: none"> Extrapleural analgesia Regional infusion/thoracic epidural +/- NCA/PCA Other
Diagnostics	<ul style="list-style-type: none"> Chest x-ray - AP view 			
Whānau support	<ul style="list-style-type: none"> Contact whānau once child is awake 			
Clinical management	<ul style="list-style-type: none"> Patient breaches the pathway due to clinical instability, pathway is recommenced post-extubation 			Recommence pathway once extubated Yes / No

Post-Operative Day 0 Ward 23B admission
Date:
Goals: Ensure adequate analgesia

	Post-Op Day 0 Ward Admission	AM	PM	Clinical/care decisions
Interventions	<ul style="list-style-type: none"> ○ Routine Post-op observations ○ Monitoring required for extrapleural analgesia ○ Hourly for the first 4 hours HR/RR/SpO2 /BP ○ 4 hourly BP if child is stable ○ Contentions SpO2 monitoring for thoracic surgery (telemetry is not required) 			
Pain management	<ul style="list-style-type: none"> ○ Extrapleural analgesia for 48-72 hrs ○ 6 hrly paracetamol ○ 8 hrly ibuprofen ○ +/- NCA/PCA ○ Ondansetron if child has postoperative nausea or vomiting 			Was regular paracetamol administered Yes / No Was regular ibuprofen administered Yes / No
Medication	<ul style="list-style-type: none"> ○ Cephazolin - 2 doses post-operative ○ Thoracic cases only require cephazolin intra-op ○ Discuss restarting anticoagulation therapy with surgeon or cardiologist 			
Mobilisation	<ul style="list-style-type: none"> ○ Mobilise up into a chair or sitting on caregiver pre chest drain removal/mobilise up to the toilet by morning 			
Nutrition	<ul style="list-style-type: none"> ○ Free oral fluids and normal diet as tolerated ○ No fluid restriction required 			
Whānau support	<ul style="list-style-type: none"> ○ Whānau support and education 			
Clinical management	Arrhythmias/Pacemaker Dyssynchrony Clinical management <ul style="list-style-type: none"> ○ Consult with Cardiologist ○ Commence telemetry ○ Check electrolytes ○ Contact on call pacemaker physiologist Oxygen Requirement/Respiratory Distress Clinical management <ul style="list-style-type: none"> ○ Clinical examination ○ Consider <ul style="list-style-type: none"> - Additional analgesia - Physiotherapy - Secretion related ○ Review last chest x-ray ○ Consult with medical team 			

Not for scanning into 3M. Please return to 23B Nurse Consultant

Post-operative Day 1

Date:

Goals:

- Adequate analgesia
- Mobilise out of bed
- Encourage normal home diet

	Post-Op Day 1	AM	PM	Clinical/care decisions
Interventions	<ul style="list-style-type: none"> Remove chest drain if insitu – CXR post drain removal Remove invasive lines- (1 X PIV to remain insitu if child has an epidural) ECG Pacemaker physiologist to check pacemaker settings/parameters 			Invasive lines removed Yes / No
Medication	<ul style="list-style-type: none"> Discuss medication management on ward round 			
Pain Management	<ul style="list-style-type: none"> Continue with extrapleural analgesia Monitoring required for extrapleural analgesia <ul style="list-style-type: none"> Hourly HR/SpO2/RR 4 hourly BP if child is stable 6 hrly paracetamol 8 hrly ibuprofen +/- NCA/PCA or oral morphine Ondansetron if child has postoperative nausea or vomiting 			Regular paracetamol administered Yes / No Regular Ibuprofen administered Yes / No
Mobilisation	<ul style="list-style-type: none"> Mobilise up into chair or sitting on caregiver pre chest drain removal and for all meals including enteral feeding Mobilise up to the toilet and out of the room Assist/encourage caregivers to mobilise child independently 			Did the child mobilise out of bed Yes / No
Nutrition	<ul style="list-style-type: none"> Encourage normal home diet as tolerated 			
Daily needs bundle of care	<ul style="list-style-type: none"> Glamorgan bundle of care Hygiene needs/bath/shower/oral care 			
Whānau support	<ul style="list-style-type: none"> Initiate family/whānau discharge education Support family/whānau to participate in child's care 			
Clinical management	Arrhythmias/Pacemaker Dyssynchrony Recommended clinical management <ul style="list-style-type: none"> Consult with Cardiologist Commence telemetry Check electrolytes Contact on call pacemaker physiologist Oxygen Requirement/Respiratory Distress Recommended clinical management <ul style="list-style-type: none"> Clinical examination Consider <ul style="list-style-type: none"> Additional analgesia Physiotherapy Secretion related 			

Not for scanning into 3M. Please return to 23B Nurse Consultant

	<ul style="list-style-type: none">○ Review last chest x-ray○ Consult with medical team	
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Post-Operative Day 2
Or discharge if child meets the discharge criteria
Date:

Goals: Ensure adequate analgesia
 Mobilise
 Child meets the discharge criteria

	Day 2 Post Op Date	AM	PM	Clinical/care decisions
Interventions	<ul style="list-style-type: none"> ○ Pacemaker check prior to discharge by pacemaker physiologist 			
Pain Management	<ul style="list-style-type: none"> ○ Discuss discontinuation of extrapleural analgesia with surgeon ○ Monitoring required for extrapleural analgesia <ul style="list-style-type: none"> - Hourly HR/SpO2/RR - 4 hourly BP if child is stable ○ 6 hrly paracetamol ○ 8 hrly ibuprofen unless contraindicated ○ PRN oral morphine if extrapleural analgesia is discontinued 			Extrapleural analgesia +/- NCA/PCA discontinued Yes/No
Mobilisation	<ul style="list-style-type: none"> ○ Encourage to mobilise as much as possible ○ Encourage caregivers to mobilise the child independently 			Did the child mobilise outside of the room Yes/No
Nutrition	<ul style="list-style-type: none"> ○ Eat and drink as tolerated 			
Diagnostic tests	<ul style="list-style-type: none"> ○ ECHO is not required unless requested by cardiologist or surgeon requires echo to exclude pericardial effusion 			Was an echo required Yes / No
Chest x-ray	<ul style="list-style-type: none"> ○ Pacemaker children – PA and lateral views to include the pacemaker and leads ○ Thoracic surgery – repeat chest x-ray if previous x-ray was abnormal ○ Non thoracic surgery – not required 			
Parental discharge education	<ul style="list-style-type: none"> ○ Commence discharge education ○ Medication education/wound education ○ Confirm pacemaker physiologist has completed discharge education 			
Discharge criteria	<ul style="list-style-type: none"> ○ Review medications prior to discharge ○ Wound review ○ Contact pacemaker clinic prior to discharge for final check and organise post discharge follow up ○ Routine follow up at 2 weeks 			

Discharge referrals	<ul style="list-style-type: none"> ○ Home care nursing referral if applicable ○ Neurodevelopment referral (see neurodevelopment follow up of cardiac patients guideline)Routine check by GP within the first week of discharge 			
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Post-Operative Day 3 or Discharge if Patient Meets Discharge Criteria

Goals: Ensure adequate analgesia
Mobilise
Child meets the discharge criteria

	Day 3 Post Op Date	AM	PM	Clinical/care decisions
Nutrition	<ul style="list-style-type: none"> ○ Eat and drink as tolerated 			
Mobilisation	<ul style="list-style-type: none"> ○ Encourage to mobilise as much as possible 			
Pain Management	<ul style="list-style-type: none"> ○ Discontinue extrapleural analgesia ○ Continue observations for 4hrs after stopping extrapleural analgesia ○ 6 hrly paracetamol ○ PRN ibuprofen ○ PRN oral morphine 			Was extrapleural analgesia discontinued Yes / No
Discharge education	<ul style="list-style-type: none"> ○ Commence discharge education ○ Medication education/wound education ○ Confirm the pacemaker physiologist has completed discharge education 			
Discharge criteria	<ul style="list-style-type: none"> ○ Review medications prior to discharge ○ Contact pacemaker clinic prior to discharge for final check and organise post discharge follow up 			Was the child discharged by day 3 post-op Yes/No Discharge date:
Discharge referrals	<ul style="list-style-type: none"> ○ Home care nursing referral if applicable ○ Neurodevelopment referral (see neurodevelopment follow up of cardiac patients guideline) 			
Clinical variance	<p>Arrhythmias/Pacemaker Dyssynchrony Recommended clinical management</p> <ul style="list-style-type: none"> ○ Consult with Cardiologist ○ Commence telemetry ○ Check electrolytes ○ Contact on call pacemaker physiologist <p>Oxygen Requirement/Respiratory Distress Recommended clinical management</p> <ul style="list-style-type: none"> ○ Clinical examination ○ Consider <ul style="list-style-type: none"> - Additional analgesia - Physiotherapy - Secretion related ○ Review last chest x-ray ○ Consult with medical team 			

Post-Operative Day 4 or Discharge if Patient Meets Discharge Criteria

- Goals:**
- Ensure adequate analgesia
 - Mobilise
 - Family/whānau is confident to care for the child on discharge
 - Child meets the discharge criteria
 - Discharge referrals completed

	Day 4 Post Op Date	AM	PM	Clinical/care decisions
Nutrition	<ul style="list-style-type: none"> ○ Eat and drink as tolerated 			
Mobilisation	<ul style="list-style-type: none"> ○ Encourage to mobilise as much as possible 			
Pain Management	<ul style="list-style-type: none"> ○ 6 hrly paracetamol ○ PRN ibuprofen ○ PRN oral morphine 			
Discharge education	<ul style="list-style-type: none"> ○ Commence discharge education ○ Medication education/wound education ○ Confirm the pacemaker physiologist has completed discharge education 			
Discharge criteria	<ul style="list-style-type: none"> ○ Review medications prior to discharge ○ Contact pacemaker clinic prior to discharge for final check and organise post discharge follow up 			Discharged day 4 post-op Yes / No Discharge date:
Discharge referrals	<ul style="list-style-type: none"> ○ Home care nursing referral if applicable ○ Neurodevelopment referral (see neurodevelopment follow up of cardiac patients guideline) 			

Post Discharge Management

Discharge management	<ul style="list-style-type: none">○ Confirm pacemaker discharge follow up has been organised○ Refer to Cardiology SMO follow up guideline
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